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The current study was designed to test Lathrop and Richmond's (1967) conclusion that perceived learning is an important factor in faculty evaluations. A 17 item questionnaire including the perceived learning area was administered to 470 students (2 classes in each of 8 departments) at Chico State College. Separate multiple regression equations for the prediction of instructor ratings and for course evaluations indicated that perceived learning is one of three factors significantly influencing these ratings. A supplementary finding was that students can rate unit factorial items with relative independence. The results constitute strong support for Lathrop and Richmond's conclusion. A theoretical framework for students' ratings of courses and instructors is advanced.

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UNIT FACTORIAL RATINGS BY COLLEGE STUDENTS
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In a paper presented at the Western Psychological Association's annual convention, Lathrop and Richmond (1967) discussed a factor analysis of a questionnaire designed to assess student reactions to college courses and instructors. The ratings of courses and instructors were included among the 72 items of that questionnaire.

Of primary interest in their analysis was the identification of a factor which they termed "Perceived Learning." Items loading both highly and uniquely on this factor were: (1) My over-all knowledge of the subject matter has increased, (2) I have improved in my ability to recognize significant facts and interpret information, (3) I have improved in my ability to express myself in this subject, (4) I have learned to think through problems, analyze questions, and reach conclusions, and (5) I have learned interrelationships of facts and ideas. Thus, this factor appeared to indicate what the student, himself, felt that he had gained from the course in terms of content. Of particular importance to the current study was the finding that the overall

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course evaluation item had its only significant loading on this Perceived Learning factor. In addition, the evaluation item had its highest loading on that factor.

The validity of these findings could be criticized on two grounds. First, 27 of their 72 items were specifically chosen to reflect perceived learning and the remainder were sampled from factors shown by other studies to tap areas of differences in student opinion about either instructors or courses. Perhaps the overall evaluation items loaded on the majority factor of perceived learning just due to response bias. Second, the sample of students tested by Lathrop and Richmond represented a very small part of the total student population (psychology students only). Perhaps the Perceived Learning factor is unique to this non-representative group. The current study attempts to control for both criticisms.

Method

Subjects.--470 students in two classes from each of eight different departments at Chico State College completed the questionnaire. The specific classes and instructors were chosen on the basis of a prior campus-wide teacher evaluation survey. Three judges indicated those departments in which an excellent and a poor teacher were teaching approximately equivalent courses. From this list, those departments were eliminated in which: (1) One of the two instructors refused to participate,

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(2) Both instructors were not teaching courses designed for majors in the department, or (3) Class sizes were not within the range of 20 to 40 registered students. The smallest of the 16 classes returned 17 questionnaires; the largest returned 32.

Evaluation instrument.--To eliminate the possibility of response bias due to overloading of items specific to a single factor, the basic instrument contained only 11 items. Each of these unit items was constructed from the sum of 5 individual questions loading on factors shown by other studies to be important in the evaluation of teaching. Thus each item was concerned with a single factor as a unit. In addition, course description, overall course evaluation, instructor evaluation, and three grade-point indices were included in the final instrument. Thus, Lathrop and Richmond's Perceived Learning factor was represented by a single item and constituted less than 6% of the questionnaire. In addition to the quantitatively scored items, space was provided for a written description of the instructor and also for criticisms of the evaluation instrument. (A copy of this instrument is included as a supplement to this report.)

Procedure.--Each class was administered the questionnaire during a regularly scheduled class meeting by the author, or his research assistant. The classes' instructors were

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not present during the period of testing. The instructions on the questionnaire were read to the class with special emphasis placed on the confidentiality of the results and upon the instruction that the students were to rate the global meaning underlying the cluster of sub-parts to each item. The ratings were completed by each student present and collected by the investigators prior to permitting the instructor to return to the class.

Results

All of the quantitative portions of evaluation instrument were analyzed by an IBM 1620 computer. The verbal descriptions of the instructor were grouped and typed for return to the instructor. All criticisms of the questionnaire were collated and used for the revising of the questionnaire attached to this report.

Of particular importance for the current report are the two separate multiple regression analyses using the over-all course evaluation as criteria to be predicted. These results are summarized in Table 1 reporting

Insert Table 1 about here

significant loadings. As noted there, only two items weighted significantly in the prediction of instructor ratings: Dynamic, Enthusiastic Instructor and Perceived Learning. Together they account for 66.7% ($R = .817$) of the variability in individual instructor ratings. Three

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items weighted significantly in the prediction of course evaluations: Perceived Learning, Encouragement of Inquiry, and Dynamic, Enthusiastic Instructor. These three items account for 55.7% ($R = .746$) of the variability in individual course evaluations.

The basic correlation matrix for all items except the two composite ratings yielded information concerning the effectiveness of unit factorial ratings. Variables in this matrix were reflected to yield a positive manifold and mean correlations of each variable with every other variable were obtained. The average of these mean correlations was $+.194$ ($\sigma_r^2 = .093$) for the matrix as a whole. Thus relative independence can be demonstrated.

Discussion

The results of the multiple regression analyses constitute extremely strong support for Lathrop and Richmond's contention that Perceived Learning is a very important factor influencing college students' evaluations of both courses and instructors. In view of the differences in evaluation instruments and populations sampled, the agreement of the two studies is striking.

The distinction between Perceived Learning and objective measures of classroom performance, however, should be emphasized. The variable Anticipated Class Grade - an "objective" (?) measure of classroom performance improves the R^2 of course evaluation prediction by .0019 over the

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more predictive items. Similarly, it improves the R^2 for instructor rating prediction by only .0020. Perceived Learning, then, is the somewhat nebulous cognitive feeling on the part of the student that he has improved as a function of participating in the course.

The other two predictive items (Dynamic, Enthusiastic Instructor and Encouragement of Inquiry) lead to a general theoretical structure of student ratings of courses and instructors. It would appear that an enthusiastic instructor is probably able to communicate that enthusiasm to his students. Placed together, these three items constitute a truly idealistic view of what the learning process really should be. In the best of all possible worlds, the student would have an enthusiastic inquiry into issues and concepts which results in deep personal growth. Such a world would not be clouded by concern over grades, the mentor's personality characteristics or pedagogical mannerisms.

It is interesting that, from our sophisticated (and perhaps jaded?) level as instructors, we have been concentrating on measuring just those factors - GPA, personality, and teaching habits - which we hope have no influence on learning. Perhaps if we adopt the idealistic view of the student, we can improve our assessment techniques and, just possibly, our teaching.

Lathrop

7/10.

Course and instructor ratings

Table 1

Summary of Prediction Weights

Criterion	Overall Course Evaluation	Instructor Rating
Item 1 R^2	Perceived Learning .4300	Dynamic, Enthusiastic Instructor .5981
Item 2 R^2	Encouragement of Inquiry .5172	Perceived Learning .6667
Item 3 R^2	Dynamic, Enthusiastic Instructor .5573	
All items (15) R^2	 .5844	 .7181

Research Questionnaire

Class # _____

Faculty Evaluation

Test # _____

This questionnaire has been prepared for the purpose of gathering data to be used in the construction of next year's faculty evaluation. Approximately 30 classes here at Chico State College will be administered this questionnaire. You will not be identified nor will the actual questionnaire be returned to your instructor, so please answer every question as honestly as possible.

1. Class description: _____ Lecture _____ Lecture-discussion
_____ Activity _____ Other (please state:)

Instructions

The following questions have been selected on the basis of a previous research study conducted at Chico State College. In that study, it was found that the individual questions tended to group together in clusters. In most of these clusters, it was apparent that a particular trait was being tested. The items on this test, then, give the group of questions which test a single trait. You are asked to read each item carefully, determine the particular trait that seems common to all parts of the item, and then enter your rating for this instructor in the space provided. Please take your time and make an accurate rating.

Use the following scale for all of your ratings:

1	2	3	4	5	6	7	8	9	10
Less than				Average		More than			
in any				College		in any			
other class				Class		other class			
									Not
									Applicable

2. My over-all knowledge of the subject matter has increased; I have improved in my ability to recognize significant fact and interpret information, in my ability to express myself in this subject; I have learned to think through questions, analyze problems, and reach conclusions, and I have learned interrelationships of facts and ideas.

Rating

3. There are discussions between teacher and students as opposed to responses to questions; at times the instructor contributes to student discussions; at times the students take over direction of the class; contrasts with teacher asking students for interpretations, explanations, hypotheses, or theories about material in course, also contrasts with instructor limiting class discussion to topics directly and clearly related to the subject matter.

Rating

4. The material presented is devoted to statements of the instructor's personal opinions; he attempts to "shock" the students as a means of stimulating discussion and/or interest; he presents material which is in strong opposition to commonly accepted attitudes or opinions; his manner is casual and disrespectful; he refers to himself or his own opinions.

Rating

5. The assigned reading is clearly appropriate to the field or area under study; examples used by the teacher are illustrative of the topic being discussed; assigned papers or homework are directly related to the area of study; the tests are appropriate for the material covered; and the papers and tests in this course contribute to the learning experience.

Rating

6. The instructor is a dynamic person; is enthusiastic about this course and its material; speaks with expressiveness and variety in tone of voice; contrasts with instructor appears to be disinterested in this course; also contrasts with instructor is incoherent and/or vague in his presentation.

Rating

7. The instructor attempts to alleviate tensions in difficult situations to keep students from feeling embarrassed or uncomfortable; he asks students for their personal opinions; he treats students as his equal; he seems to understand student comments and questions even when they are not clearly expressed; contrasts with instructor appearing to be cold towards or unaware of students.

Rating

8. The instructor asks for more than students can get done; he assigns very difficult reading; he has assigned a great amount of reading; contrasts with assignments in this class are easily completed; also contrasts with insufficient amount of work assigned to cover the material of the course.

Rating

9. The class is well organized; the instructor is objective in evaluating students' performance in this class; he speaks with great precision with apparent concern for the accuracy of details; he appears to have a well-developed plan for the course; a student in this class knows where he stands at any time.

Rating

10. The instructor encourages inquiry in this class; the course 'opens up' rather than closes issues for discussion; I have been stimulated to strive for excellence; I have developed a desire to find out things; my interest in this subject has grown.

Rating

11. The instructor is ill at ease when talking to students; he seems hesitant or unsure of himself; he shows signs of nervousness; contrasts with teacher seems comfortable and relaxed in the classroom; also contrasts with instructor seems confident of his own knowledge and ability to communicate it to the student.

Rating

12. I have increased my understanding of the relationship of this course to others; this course has increased my ability to prepare myself in this area; it has assisted in my preparation for my vocation; I have discovered my possibilities and deficiencies in this field; and I have discovered where to place special emphasis in my preparation for this field.

Rating

13. How would you rate your instructor in general (all-around) teaching ability?

- (1) Poorest instructor I have ever had.
- (2) Much poorer than the average instructor.
- (3) Poorer than the average instructor.
- (4) Slightly poorer than the average instructor.
- (5) About the same as the average instructor.
- (6) Slightly better than the average instructor.
- (7) Better than the average instructor.
- (8) Much better than the average instructor.
- (9) Best instructor I have ever had.

Rating

14. How would you rate the over-all value of this course?

- (1) Poorest course I have ever had.
- (2) Much poorer than the average class.
- (3) Poorer than the average class.
- (4) Slightly poorer than the average class.
- (5) About the same as the average class.
- (6) Slightly better than the average class.
- (7) Better than the average class.
- (8) Much better than the average class.
- (9) Best course I have ever had.

Rating

15. In one word or phrase, how would you characterize your instructor's outstanding characteristic?

Some further information is desired to help complete this study. Please answer every item. It is important to know both your estimated course grade and the grade-point average of your entire college career.

Again, place the appropriate number from the scale below in the box at the right.

(1)	A	3.75-4.00
(2)	A-B	3.25-3.75
(3)	B	2.75-3.25
(4)	B-C	2.25-2.75
(5)	C	1.75-2.25
(6)	C-D	1.25-1.75
(7)	D	.75-1.25
(8)	D-F	.25- .75
(9)	F	.00- .25

16. Your estimated grade in this course.

17. Your over-all GPA in college (estimate).

18. (Please leave this space blank)

19. As a final item in the questionnaire, would you please list any area that we may have forgotten to cover in our original list of traits relevant to the general evaluation of college instructors and their courses?
